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No. V.

IMPROVED METHOD OF LETTING GO THE
ANCHOR.

The LARGE SILVER MEDAL was this session presented to G. G. BURTON, Esq., Capt. R. N., for his improved method of LETTING GO THE ANCHOR. The following letters have been received from Capt. Burton on the subject; and a model of his apparatus has been placed in the Society's repository.

SIR,

Sandwich, Kent, April 21, 1823.

I BEG you will be good enough to lay before the Society for its inspection, a plan for more easily and expeditiously letting go an anchor; it will equally apply to the merchant service as well as to his majesty's navy. If the plan shall appear to possess the qualifications pointed out, I shall be happy to receive the Society's approbation of it, and will wait on any committee upon notice of its convenience to take up the subject, begging of you to give me the earliest notice of the appointed day as it will require me to proceed hence.

I am, Sir,

*A. Aikin, Esq.**Secretary, &c. &c.*

&c. &c. &c.

G. G. BURTON.

SIR,

Sandwich, July 24, 1824.

FOR a description of the accompanying model, I beg to refer you to the plan already before the Society, which clearly points out its mode of application; but I add the following remarks to show the advantages resulting from its application, which are principally five, viz.

First, it ensures the anchor being let go at the instant it is required, which is not always the case with the old method, as the turns are apt to jam, when it becomes necessary to cut them, and even this requires time, which may prevent you taking a precise birth in a confined anchorage, or anchoring in line. And an anchor being *instantly* let go will sometimes prevent one ship running on board another; and there being no rackings to cut, or turns to take off, (on any sudden emergency in the night), the anchor may be let go at a moment's notice.

Secondly, economy of strength,—as but one man is required to each stopper *for the largest anchor*, indeed a boy is sufficient for the shank painter, and they are quite out of the way.

Thirdly, safety,—as by the old method of letting go the running end, if the men were not very active to get out of the way in time, the loss of life or limb might be the consequence; and the the hammock nettings are constantly broken by the violent action of the end of the stoppers; neither of which accidents can possibly occur by the proposed plan.

Fourthly, room. By the old method the stoppers are led across the forecastle, nearly occupying one side; now it is known to all seamen that there are more ropes led to the forecastle than to any other part of the ship, particularly when

coming to an anchor, directly across most of which the stoppers are led, which creates much disorder, and risk of the people's getting in the way of the stoppers when their personal safety depends on being clear of them. By the proposed plan the two men are placed quite out of the way of working the ship, and, as there are no rackings to cut or turns to take off, they need not go to their posts until the order is given to stand by the anchor, although the order for letting go may follow in a few seconds; and in coming to an anchor during action the anchors may be let go without for one moment interfering with the forecastle guns.

Fifthly, time. In stowing the anchors, considerable time is saved by passing the standing part of the stopper, which enables you to have your jiggers on for bousing the first turn taught before hand; and, lastly, (if it is an advantage), you may let go which end of the stopper you please, as the application of my plan does not prevent the stoppers being used in the old way.

It has been tried on board several of his majesty's ships, and has proved its usefulness to the full extent of my expectation.

I am, Sir,

&c. &c. &c.

A. Aikin, Esq.

Secretary, &c. &c.

G. G. BURTON.

SIR,

Sandwich, April 28, 1823.

I HAVE the honour to enclose to you two letters, from Sir Robert Mends and Captain Warren, touching the merits of my invention for letting go an anchor, which I will thank you to lay before the committee, with the letter from

Sir Edward Codrington I left in your hands, when my plans come under their consideration.

I am, Sir,

A. Aikin, Esq.

Secretary, &c. &c.

&c. &c. &c.

G. G. BURTON.

SIR,

Charles-street, Berkley-square, July 27.

MANY thanks for the plan you have been good enough to send me of your improved method of letting go an anchor. I certainly think very highly of it, and am glad to find it is approved of, after practical experiment, by so good a judge as Captain Warren. I shall place the plan, with your letter, in the R. N. club-room in Albemarle-street, where it will meet the examination of many of our brother officers, and I have no doubt be equally approved of by them.

I am, Sir,

&c. &c. &c.

Captain G. Burton.

EDW. CODRINGTON.

SIR,

Owen Glendower, Chatham, Nov. 12, 1822.

UNINTENTIONALLY your letter has remained a good while unanswered, having slipt on one side amongst a mass of papers, and escaped my recollection, which will I hope plead my apology. Having myself witnessed the facility with which the anchor is let go on your plan, and taken the opinion of the lieutenants, master, and boatswain, who all agree with me, I have no hesitation in pronouncing it a great improvement on the old method, and far superior to

any other I have seen, as no chance of accident or injury can arise to the man who lets it go.

I am, Sir,

&c. &c. &c.

Captain G. Burton.

R. MENDS.

SIR, Seringapatam, at the Nore, April 26, 1823.

IT is right, after upwards of two years' trial of your plan for letting an anchor go by the standing parts of the stopper and shank-painter, I should state to you, the opinion of myself and the officers of the ship, of its merits, viz. it has never failed to run; the men that are stationed to let the anchor go, are not exposed to danger, nor are they in the way of shortening sail as they were on the old plan; the anchor drops from the bows without the tremulous motion that the running part of the stopper and shank-painter gave her; besides, in stowing the anchor after it is coiled, you have merely the standing part of the stopper to pass through the ring, and bouse the first turn taught instead of having the long end to haul round. I hope when all these advantages are known, it will be generally adopted in the service.

I am, Sir,

&c. &c. &c.

*Captain G. Burton, R. N.
Sandwich.*

SAML. WARREN.

IN order to secure a ship's anchor, which, by the usual means, has been brought to the surface of the water, a hook

fixed to a tackle, passing over the pullies in the projecting beam called the cat-head, is placed in the ring of the anchor. An adequate power being applied to this tackle, the anchor is raised above the hawse-holes, and is finally suspended from the side of the cat-head by means of a short rope called a stopper, one end of which being made fast, the other is put through the anchor ring, and is secured by three or four turns round one of the timber heads. A rope or chain, called the shank-painter, is also fastened to the shank of the anchor, by means of which the anchor is drawn into an oblique position, and is thus secured to the bow of the ship.

In preparing to anchor, the shank-painter is cast off, and then the anchor remains suspended in a vertical position from the cat-head by means of the stopper; when the order is given to let go, the turns made by the running end of the stopper round the timber head are slackened, and the stopper being cautiously cast off, the anchor drops down, carrying the cable with it. But to cast off the stopper is by no means an easy operation; for the whole weight of the anchor being borne by it, the services of several men are required, and these, being sometimes overpowered, the running end gets loose, entangling the legs of the men and occasioning very serious accidents: sometimes also the turns round the timber head get foul, and the anchor cannot be released without cutting the stopper.

For the above-mentioned reasons Captain Burton has invented a mode of casting off the stopper, which is represented in plate VIII., in which fig. 1 is a lateral view, fig. 2 a front view, and fig. 4 a bird's-eye view of the apparatus with the anchor suspended by it. *a a* is the ship's side, *b* the cat-head, *c* the stopper, which passing through the ring

d of the anchor keeps it a vertical position previous to letting it go: *e* is the stock and *f* the shank of the anchor. That end of the stopper which is represented as taking three or four turns round the timber head in the side of the ship, is the running end according to the usual mode of casting it off, but is the fast end on Captain Burton's plan. Now, tracing the stopper from this fast end, fig. 1, we find that it first passes in a horizontal direction to a shoulder or cleat, bolted to the side of the cat-head, thence it descends forming a loop through the ring of the anchor, and afterwards ascending on the other side of the cat-head, it terminates in an eye which is slipped on the short end of a trip bolt, as shown in fig. 2, being prevented from slipping off by means of a staple passed through the bolt between its extremities and the eye of the stopper. The bolt is fixed on a pivot which allows it a certain quantity of motion up and down, and its long end is cut off obliquely downwards: this end is received into a shallow cavity at the end of a jointed clasp *g*, fig. 1, (the right hand *g* in figs. 2 and 3, and the lower *g* in fig. 4) and the clasp is secured in its place by means of a horizontal clasp and pin, as represented fig. 1.

In order to prepare for letting go, the end of the handspike fig. 5, is to be introduced into the iron loop or staple driven into the cat-head by the side of the clasp *g*, figs. 1 and 4, by which means it answers the purpose of the horizontal clasp, and thus allows this to be loosened by taking out its pin: the pin at the short end of the trip-bolt is also to be withdrawn. On the order "let go" being given, nothing more is required than to pull the end of the handspike out of the staple, the clasp *g* is then thrown back as the long or lever end of the trip bolt rises: the short end of the bolt being proportionably depressed, the eye of the stopper slips

off, and thus releases the anchor without any trouble or possibility of accident.

A further advantage attends Captain Burton's plan, namely, that if circumstances should on any occasion render it expedient to cast off the stopper by that end which is put round the timber head, as usual, this may be done; for the trip-bolt, while the clasps and pins remain in their places, forms a perfect method of securing the looped end of the stopper.

Captain Burton has also adopted a similar mode of securing the shank painter. In fig. 6, *a a* represents the ship's side, *b* the shank painter, the terminal link of which is received in a hole cut through the bulwarks, and is secured on the inside by the trip-bolt *g*; this, like the other trip-bolt already mentioned, is a lever moveable on a fulcrum or pin, and its upper end, which is cut off obliquely, is received into a sloped cavity in the under side of a clasp, which clasp also moves on a pin having its motion limited by the aperture in the bulwarks in which it is inserted. It is obvious that when the clasp is let down on the head of the bolt and a wedge is inserted above the clasp so as to fill up the hole in which it works, the bolt remains immovable and consequently the chain *b* is perfectly secured: this state of things is shown in fig. 6. On withdrawing the wedge, as shown in fig. 7, the pressure of the chain on the bolt causes it to move on its pin and consequently disengages it from the clasp, throwing the upper end forwards and the lower end backwards, and thus allowing the end link of the chain to slip off the lower end of the bolt. Fig. 8, is a front view from the inside of the ship of the apparatus in the same position as represented in fig. 6.